

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Attachment M1		
Section	Change	Explanation of Change
M1	Table of Contents	Numerous changes to the table of contents and figures have been made to Attachment M1.
Introduction	Management and ... Subpart V. The technical requirements of 20.4.1.500 NMAC (incorporating 40 CFR §§264.170 to 264.178) are applied to the operation of the Waste Handling Building Container Storage Unit (WHB Unit)(Figure M1-1), <u>the Waste Handling Building Staging Area, TRUDOCK Staging Area, Room 108 and Airlock 107 Staging Area, TRUPACT Maintenance Facility (TMF) Staging Area, the Parking Area Staging Area</u> and the Parking Area Container Storage Unit (Parking Area Unit)(Figure M1-2). ...	This sections has been revised to add the staging areas to the permit. Staging areas are needed to implement the Permittees waste analysis activities such as the examination of waste using radiography.
M1-1a	The Permit ... liquids requirement. In no case shall the total liquid equal or exceed one volume percent of the waste container (e.g., drum or standard waste box [SWB], <u>or canister</u>). Since the ... is greater. <u>Any container which, through verification and examination, is identified as containing total liquids present that are equal to or greater than one volume percent of the waste container will be tagged as a non-conforming container and placed in an appropriate location until returned to the generator/storage site or sent off-site for remediation.</u>	This section has been revised to indicate that the liquids prohibition will be verified during the Permittees waste examination process at WIPP.

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1b	<p>Contact handled ... or SWBs. A summary description of each <u>CH TRU mixed waste</u> container type is provided below.</p> <p>...</p> <p><u>Remote-Handled (RH) TRU mixed waste containers include canisters, which are received at WIPP loaded singly in an RH-TRU 72-B cask, and drums, which are received in a CNS 10-160B cask.</u></p> <p><u>RH TRU Canister</u></p> <p><u>The RH TRU canister is a steel single shell container which is constructed to be of high integrity. An example canister is depicted in Figure M1-16a. The RH TRU canister is vented and will have a nominal internal volume of 31.43 ft³ (0.89 m³) and shall contain waste packaged in small containers (e.g., drums) or waste loaded directly into the canister.</u></p> <p><u>RH TRU Facility Canister</u></p> <p><u>The RH TRU Facility Canister is a cylindrical container designed to hold up to three 55-gallon drums (Figure M1-16).</u></p> <p><u>Standard 55-Gallon Drums</u></p> <p><u>Standard 55-gal (208-L) drums meet the requirements for U.S. Department of Transportation (DOT) specification 7A regulations. A detailed description of a standard 55-gallon drum is provided above. Up to ten 55-gallon drums containing RH TRU mixed waste are arranged on two drum carriage units in the CNS 10-160B cask (up to five drums per drum carriage unit). The drums are transferred to an RH TRU mixed waste Facility Canister that will contain up to three drums.</u></p>	<p>This section has been revised to add the RH TRU mixed waste containers to the permit.</p>
M1-1c(1)	<p>The Waste ... (Figure M1-1). The WHB has a total area of approximately 84,000 square feet (ft²) (7,804 square meters (m²)) of which 33,175 <u>20,914.5</u> ft² (3,082 <u>1,945.7</u> m²) are designated for the waste handling and container storage of CH TRU mixed waste <u>and 17,403 ft² (1,617 m²) are designated for handling and storage of RH TRU mixed waste</u>, as shown in Figures M1-1 <u>and M1-17a, b and c.</u> ...</p> <p><u>Waste Handling Building and TMF Staging Areas</u></p> <p><u>The Waste Handling Building Staging Areas include the WHB Staging Area, Room 108 and Airlock 107 Staging Area, TMF Staging Area and TRUDOCK Staging Area (Figure M1-1). These areas are designed to allow staging of CH TRU mixed waste until the requirements for waste verification and examination of Permit Attachment B7 have been met but not to exceed ten (10) days (plus 60 additional days for non-compliant waste).</u></p>	<p>This section has been revised to reflect the total areas for CH TRU and RH TRU mixed waste. It also includes the new indoor staging areas and the time limit requirement in those areas. The time limits are discussed in the Overview to the PMR.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>CH TRU Mixed Waste</u></p> <p>The contact ... Handled Packages. The TRUDOCKs are within the TRUDOCK Storage <u>Staging</u> Area of the WHB Unit. ...</p> <p>Upon receipt and removal of CH TRU mixed waste containers from the Contact Handled Packaging, the waste containers are required to be in good condition as provided in Permit Module III. The waste containers will be visually inspected for physical damage (severe rusting, apparent structural defects, signs of pressurization, etc.) and leakage to ensure they are good condition prior to <u>staging, verification examination or storage</u>. Waste containers ... M1-1d. The area previously designated as the Overpack and Repair Room will not be used for TRU mixed waste management in any instances.</p> <p>Once unloaded from the Contact Handled Packaging, CH TRU mixed waste containers (7-packs, 3-packs, 4-packs, SWBs, or TDOPs) are placed in one of two positions on the facility pallet <u>or on a containment pallet if destined for verification and examination</u>. <u>The waste containers are stacked, on the facility pallets (one- or two-high, depending on weight considerations). Waste on containment pallets will be stacked one-high.</u> The use of facility <u>or containment</u> pallets will elevate the waste at least 6 in. (15 cm) from the floor surface. Pallets of waste <u>requiring verification or examination</u> will then be relocated to <u>one of the approved Staging Areas while the verification and examination requirements of Attachment B7 are met</u>, the Northeast (NE) Storage Area of the WHB Unit for normal storage. This NE Storage Area, which is shown in Figure M1-7, will be clearly marked to indicate the lateral limits of the storage area. This NE Storage Area will have a maximum capacity of seven pallets (1,856 ft³ [52.6 m³]) of TRU mixed waste containers during normal operations. These pallets will typically be staged <u>placed</u> in this <u>a staging area for a period of up to five no more than ten (10) days. Staging Areas are the TRUDOCK Staging Area, the WHB Staging Area, Room 108 and Airlock 107 Staging Area, and the TMF Staging Area.</u></p>	<p>This sections adds staging areas and the process of verification and examination to the operations which occur in the WHB. This section also describes the verification and examination process.</p> <p><u>The Overpack and Repair Room is also identified as Room 108 and will be used as a staging area, therefore this condition is deleted.</u></p> <p>This section also requires that waste undergoing examination be on a facility or containment pallet and if on a containment pallet that waste be stacked one high. A description of the containment pallet is included.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>During this time period seven percent of the containers from each waste stream in each shipment will undergo verification and examination as defined in Attachment B7. Verification and examination of CH-TRU mixed waste will occur either via radiography, visual examination (VE) or through a review of the VE records. Verification and examination of RH TRU mixed waste will occur through a review of VE records.</u></p> <p><u>Each unverified and unexamined container assembly will be tagged to indicate that verification and examination has not occurred. No containers from an unverified and unexamined waste stream in an unverified and unexamined shipment can be placed in the repository.</u></p> <p><u>Containers will be randomly selected to undergo verification and examination. The selected containers will be located and, if verification and examination is to be performed via radiography the selected container will be placed on a containment or facility pallet for transport to the radiography equipment. While in transit to the radiography equipment and during the verification and examination process, secondary containment will be provided by containment pallets or by the containment capability integral to the handling and processing equipment. After verification and examination is complete the container will be returned to the appropriate staging area. Waste stream shipments may not be disposed until the verification and examination data are approved in accordance with Attachment B7 of this HWFP.</u></p> <p><u>Waste that does not meet the requirements specified in Attachment B7 will be considered as non-conforming waste and will be held in an appropriate staging area while the discrepancy is resolved. Non-conforming waste may remain in the staging area for up to sixty (60) days from the date the non-conformance was discovered. If the non-conformance cannot be resolved with the generator site, the non-conforming waste will either be:</u></p> <ul style="list-style-type: none"> <u>• resolved with the generator/storage site</u> <u>• returned to the generator/storage site</u> <u>• sent to another DOE facility for remediation</u> <u>• sent to an approved third party site for remediation</u> <p><u>Regardless of the resolution, the Permittees will notify the Secretary within twenty four (24) hours from the time the discrepancy was discovered that a non-conforming waste is at the WIPP facility.</u></p> <p><u>Manifest discrepant payloads will be placed in an appropriate staging area in the WHB where they will be tagged and segregated from waste which is approved for emplacement or inside a Contact Handled Package, depending on when the discrepancy is discovered. The waste containers will be elevated off of the floor surface by means of either a facility or containment pallet unless inside a Contact Handled Package.</u></p>	<p>This change describes the waste examination process that the Permittees will perform at the WIPP facility. A discussion of this process can be found in the Overview section and in the response to NOD Comments 3.2.t. and u. The text provides the disposition of the containers as they are processed and tell what will happen if a non-compliant container is discovered. The text implements recent changes to the Manifest Rule by the EPA by incorporating the maximum 60-day period that rejected waste shipments (referred to as non-compliant waste in this PMR) can remain on-site.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p>In addition, four Contact Handled Packages, containing up to eight 7-packs, 3-packs, 4-packs, SWBs, or four TDOPs, may occupy the staging positions at the TRUDOCK Storage Area of the WHB Unit. If waste containers are left in this area, they will be in the Contact Handled Package with or without the shipping container lids removed. The maximum volume of waste in containers in four Contact Handled Packages is 530.4 ft³ (15 m³); ...</p> <p>An area has also been designated for the temporary storage of waste containers for which manifest discrepancies were noted after the Contact Handled Package was opened.</p> <p>Discrepant payloads will be placed either in the Shielded Storage Area of the WHB Unit on a facility pallet or inside a Contact Handled Package, depending on when the discrepancy is discovered. In either case the waste containers will be elevated approximately six inches from the floor. The storage capacity of this area is one pallet load of TRU mixed waste containers (i.e., 4 SWBs, 2 TDOPs, or 28 drums, or combinations of all three);</p> <p>Aisle space shall be maintained in all WHB Unit TRU mixed waste <u>staging or</u> storage areas. The aisle ... normal event. An aisle space of 44 in. (1.1 m) between facility pallets will be maintained in all WHB Unit TRU mixed waste storage areas; ...</p> <p>The following are the major pieces of equipment that will be used to manage CH TRU <u>mixed</u> waste in the container <u>staging or</u> storage units. ...</p>	<p>These changes reconfigure the distribution of storage areas in the WHB in order to accommodate the receipt of waste that needs verification and to allow for anticipated increased throughput rates of TRU mixed waste.</p>
M1-1c(1)	<p><u>Containment pallets are fabricated units having a containment capacity of at least ten percent of the volume of the containers and designed to support a minimum of either a single drum, a single SWB or a single TDOP. The pallets will have a rated load capacity of equal to or greater than the gross weight limit of the container(s) to be supported on the pallet. Loads are secured to the containment pallet during transport. A typical containment pallet is shown in Figure M1-10a. Fork pockets in the side of the pallet allow the containment pallet to be lifted and transferred by forklift. WIPP facility operational documents define the operational load of the containment pallet to assure that the rated load of a containment pallet is not exceeded.</u></p>	<p>This change describes containment pallets which will be used for containers of waste that are not managed on facility pallets or in shipping containers in the WHB or TMF.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>RH TRU Mixed Waste</u></p> <p><u>The RH TRU mixed waste is handled and stored in the RH Complex of the WHB Unit and comprises the following locations: RH Bay (12,552 ft² (1,166 m²)), the Cask Unloading Room (382 ft² (36 m²)), the Hot Cell (1,841 ft² (171 m²)), the Transfer Cell (1,003 ft² (93 m²)) (Figures M1-17a, b and c), and the Facility Cask Loading Room (1,625 ft² (151 m²)).</u></p> <p><u>The RH Bay (Figure M1-14a) is a high-bay area for receiving casks and subsequent handling operations. The trailer carrying the RH-TRU 72 B or CNS 10-160B shipping cask (Figures M1-18, M1-19, M1-20, and M1-21) enters the RH Bay through a set of double doors on the east side of the WHB. The RH Bay houses the cask transfer car. The RH Bay is served by the RH Bay Overhead Bridge Crane used for cask handling and maintenance operations. Storage in the RH Bay occurs in the RH-TRU 72-B or CNS 10-160B casks. The storage occurs after the trailer containing the cask is moved into the RH Bay and prior to moving the cask into the Cask Unloading Room to stage the waste for disposal operations. A maximum of two loaded casks (146.93 ft³ (4.16 m³)) and one 55-gallon drum for derived waste may be stored in the RH Bay.</u></p> <p><u>The Cask Unloading Room (Figure M1-17a) provides for transfer of the RH-TRU 72-B cask to the Transfer Cell, or the transfer of drums from the CNS 10-160B cask to the Hot Cell. Storage in the Cask Unloading Room will occur in the RH-TRU 72-B or CNS 10-160B casks. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of waste handling operations. A maximum of one cask (73.47 ft³ (2.08 m³)) may be stored in the Cask Unloading Room.</u></p> <p><u>The Hot Cell (Figure M1-17b) is a concrete shielded room in which drums of RH TRU mixed waste will be transferred remotely from the CNS 10-160B cask, staged in the Hot Cell, and loaded into a facility canister. The loaded facility canister is then lowered from the Hot Cell into the Transfer Cell shuttle car containing a shielded insert. Storage in the Hot Cell occurs in either drums or facility canisters. Drums that are stored are either on the drum carriage unit that was removed from the CNS 10-160B cask or in a facility canister. A maximum of 10 drums and 6 loaded facility canisters (262.02 ft³ (7.42 m³)) and one 55-gallon drum for derived waste may be stored in the Hot Cell.</u></p> <p><u>The Transfer Cell (Figure M1-17c) houses the Transfer Cell Shuttle Car, which moves the RH-TRU 72-B cask or shielded insert into position for transferring the canister to the facility cask. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of a waste handling evolution. A maximum of one canister (31.43 ft³ (0.89 m³)) may be stored in the Transfer Cell in the Transfer Cell Shuttle Car.</u></p> <p><u>The Facility Cask Loading Room (Figure M1-17d) provides for transfer of a canister to the facility cask for subsequent transfer to the waste hoist and to the Underground Hazardous Waste Disposal Unit (HWDU). The Facility Cask Loading Room also functions as an air lock between the Waste Shaft and the Transfer Cell. Storage in this area typically occurs at the end of a shift or in an off-normal event that results in the suspension of waste handling operations. A maximum of one canister (31.43 ft³ (0.89 m³)) may be stored in the Facility Cask (Figure M1-23) in</u></p>	<p>This section describes the RH Complex, the equipment required to manage RH TRU mixed waste and how RH TRU mixed waste is to be managed.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>Following is a description of major pieces of equipment that are used to manage RH TRU mixed waste in the WHB Unit. A summary of equipment capacities, as required by 20.4.1.500 NMAC, is included in Table M1-3.</u></p> <p><u>Casks</u></p> <p><u>The RH-TRU 72-B cask (Figure M1-20) is a cylinder designed to meet U.S. Department of Transportation (DOT) Type B shipping container requirements. It consists of a separate inner vessel within a stainless steel, lead-shielded outer cask protected by impact limiters at each end, made of stainless steel skins filled with polyurethane foam. The inner vessel is made of stainless steel and provides an internal containment boundary and a cavity for the payload. Neither the outer cask nor the inner vessel is vented. Payload capacity of each RH-TRU 72-B shipping cask is 8,000 lbs (3,628 kg). The payload consists of a canister of RH TRU mixed waste, which may contain up to 31.43 ft³ (0.89 m³) of directly loaded waste or waste in smaller containers.</u></p> <p><u>The CNS 10-160B cask (Figure M1-21) is designed to meet DOT Type B container requirements and consists of two carbon steel shells and a lead shield, welded to a carbon steel bottom plate. A 12-gauge stainless steel thermal shield surrounds the cask outer shell, which is equipped with two steel-encased, rigid polyurethane foam impact limiters attached to the top and bottom of the cask. The CNS 10-160B cask is not vented. Payload capacity of each CNS 10-160B cask is 14,500 lbs (6,577 kg). The payload consists of up to ten 55-gallon drums.</u></p>	<p>This change is a continuation of the description of the RH Complex, the equipment required to manage RH TRU mixed waste and how RH TRU mixed waste is to be managed.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>CNS 10-160B Drum Carriage</u></p> <p><u>The CNS 10-160B drum carriage (Figure M1-25) is a steel device used to handle drums in the CNS 10-160B cask. The drum carriages are stacked two high in the CNS 10-160B cask during shipment. They are removed from the cask using a below-the-hook lifting device termed a pentapod. The drum carriage is rated to lift up to five drums with a maximum weight of 1000 pounds each.</u></p> <p><u>RH Bay Overhead Bridge Crane</u></p> <p><u>In the RH Bay, an overhead bridge crane is used to lift the cask from the trailer and place it on the Cask Transfer Car. It is also used to remove the impact limiters from the casks and the outer lid of the RH-TRU 72-B cask.</u></p> <p><u>Cask Lifting Yoke</u></p> <p><u>The lifting yoke is a lifting fixture that attaches to the RH Bay Overhead Bridge Crane and is designed to lift and rotate the RH-TRU 72-B cask onto the Cask Transfer Car.</u></p> <p><u>Cask Transfer Car</u></p> <p><u>The Cask Transfer Car (Figure M1-22 and M1-24), is a self-propelled, rail-guided vehicle, transports the cask between the RH Bay and the Cask Unloading Room.</u></p>	<p>This change is a continuation of the description of the RH Complex, the equipment required to manage RH TRU mixed waste and how RH TRU mixed waste is to be managed.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>6.25 Ton Grapple Hoist</u></p> <p><u>A 6.25 Ton Grapple Hoist is used to hoist the canister from the Transfer Cell Shuttle Car into the facility cask.</u></p> <p><u>Facility Cask</u></p> <p><u>The facility cask body consists of two concentric steel cylinders. The annulus between the cylinders is filled with lead, and gate shield valves are located at either end. Figure M1-23 provides an outline configuration of the facility cask. The canister is placed inside the facility cask for shielding during canister transfer from the RH complex to the Underground HWDU for emplacement.</u></p> <p><u>Facility Cask Transfer Car</u></p> <p><u>The Facility Cask Transfer Car (Figure M1-24) is a self-propelled rail car that is used to move the facility cask between the Facility Cask Loading Room and the Shaft Station in the underground.</u></p> <p><u>Hot Cell Bridge Crane</u></p> <p><u>The Hot Cell Overhead Bridge Crane, outfitted with a rotating block and the Facility Grapple, will be used to lift the CNS 10-160B lid and the drum carriage units from the cask located in the Cask Unloading Room, into the Hot Cell. The Hot Cell Overhead Bridge Crane is also used to lift the empty disposal canisters into place within the Hot Cell, move loaded drums into the facility canister and lower loaded canisters into the Transfer Cell.</u></p> <p><u>Overhead Powered Manipulator</u></p> <p><u>The Overhead Powered Manipulator is used in the Hot Cell to lift individual drums from the drum carriage unit and lower each drum into the facility canister and support miscellaneous Hot Cell operations.</u></p> <p><u>Manipulators</u></p> <p><u>There is a maximum of two operational sets of fixed Manipulators in the Hot Cell. The Manipulators collect swipes of drums as they are being lifted from the drum carriage unit and transfer the swipes to the Shielded Material Transfer Drawer and support Hot Cell operations.</u></p> <p><u>Shielded Material Transfer Drawer</u></p>	<p>This change is a continuation of the description of the RH Complex, the equipment required to manage RH TRU mixed waste and how RH TRU mixed waste is to be managed.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1c(1)	<p><u>Closed-Circuit Television Camera</u></p> <p><u>The Closed-Circuit Television Camera monitors Hot Cell and Transfer Cell operations. These operations are observed from the shielded room in the Facility Cask Loading Room and Hot Cell Gallery.</u></p> <p><u>Transfer Cell Shuttle Car</u></p> <p><u>The Transfer Cell Shuttle Car positions the loaded RH-TRU 72-B cask and shielded insert within the Transfer Cell.</u></p> <p><u>Cask Unloading Room Crane</u></p> <p><u>The Cask Unloading Room Crane lifts and suspends the RH-TRU 72-B cask or shielded insert from the Transfer Car and lowers the cask or shielded insert into the Transfer Cell Shuttle Car.</u></p>	<p>This change is a continuation of the description of RH Complex, the equipment required to manage RH TRU mixed waste and how RH TRU mixed waste is to be managed.</p>
M1-1c(2)	<p>The parking area south of the WHB (see Figure M1-2) will be used for <u>staging or</u> storage of waste containers within sealed shipping containers awaiting unloading. The area extending south from the WHB within the fenced enclosure identified as the Controlled Area on in Figure M1-2 is defined as the Parking Area Unit. The Parking Area Unit provides storage space for up to 7,160 ft³ (202.5 m³) of CH TRU mixed waste, contained in up to 12 50 loaded Contact-Handled Packages corresponding to 1,591 ft³ (45m³) of CH TRU mixed waste. and 14 Remote-Handled Packages. Secondary containment and protection of the waste containers from standing liquid are provided by the Contact- <u>or Remote-</u>Handled Packaging. Wastes placed in the Parking Area Unit will remain sealed in their Contact- <u>or Remote-</u>Handled Packages at all times while in this area. <u>Also shown on Figure M1-2 is the Parking Area Staging Area. This Staging Area may contain up to 50 CH Packages and 14 RH Packages while the waste verification and examination requirements of Attachment B7 are met but no longer than ten (10) days. The maximum capacity of the Parking Area Staging or Storage Areas is limited to 50 CH Packages and 14 RH TRU Packages either in a single storage/staging area or in combination of both.</u></p> <p>The maximum number of Contact Handled Packages that will be stored in the Parking Area is twelve, containing a maximum of 1,591 ft³ (45m³) of CH TRU mixed waste. The Nuclear Regulatory Commission (NRC) Certificate of Compliance requires that sealed Contact- <u>or Remote-</u>Handled Packages, which contain waste, be vented every 60 days to avoid unacceptable levels of internal pressure.</p> <p>Under no circumstances shall a Contact- <u>or Remote-</u>Handled Package be stored in the Parking Area Unit for more than fifty-nine (59) days after the date that the inner containment vessel of the Contact- <u>or Remote-</u>Handled Packages was sealed at the generator site.</p>	<p>This section authorizes outdoor staging areas, increases the allowable number of packages that may be stored or staged and adds the ability to store or stage RH TRU packages in these areas.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d	The typical processing rate for CH TRU mixed waste is 14 Contact Handled Packages per day, or seven pallet loads, and the maximum is 28 per day. Two shifts per day are planned, four days per week. The fifth day is for equipment maintenance with weekends available for more extensive maintenance, when necessary.	This section deletes the anticipated processing rate proposed in the application. It is anticipated that this rate will increase with the approval of this PMR.
M1-1d(2)	<p>CH TRU ... the WHB. The forklift will place the shipping containers at one of the two TRUDOCKs in the TRUDOCK Storage Staging Area of the WHB Unit, where an external survey of the Contact Handled Package inner vessel (see Figure M1-8a and M1-8b) will be performed as the outer containment vessel lid is lifted. ...</p> <p>...</p> <p>For waste containers ... the environment. These containers will <u>undergo verification and examination and, after verification and examination approval</u>, be placed in the underground without further action once the radiological contamination is removed unless there is visible evidence of hazardous waste spills or hazardous waste on the container and this contamination is considered likely to be released prior to emplacement in the underground.</p> <p>...</p> <p>Small area .. TDOP. The overpacked container will be properly labeled, and sent underground for disposal <u>once the shipment it is associated with is verified and examined</u>. ...</p>	This section changes the TRUDOCK Storage Area to the TRUDOCK Staging Area and requires verification and examination before placement in the underground. This section also describes the examination process, what will occur if waste is found to be non-compliant during examination, how non-compliant containers will be managed and the length of time allowed to resolve non-compliance issues.

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d(2)	<p><u>Each waste stream in each shipment will also undergo verification and examination to assure that there is no ignitable, corrosive or reactive waste present. Verification and examination of CH TRU mixed waste will occur either via radiography, VE or through a review of the VE records in each shipment. Containers that have not been verified and examined will be staged in an appropriate staging area.</u></p> <p><u>Each unverified and unexamined container assembly will be tagged to indicate that verification and examination has not occurred. No containers from an unverified and unexamined waste stream in a shipment can be placed in the repository.</u></p> <p><u>Containers will be randomly selected to undergo verification and examination. The selected containers will be located and, if verification and examination is to be performed via radiography the selected container will be placed on a facility or containment pallet for transport to the radiography equipment. After verification and examination is complete the container will be returned to the appropriate Staging Area. Waste stream shipments may not be disposed until the verification and examination data are approved in accordance with Attachment B7 of this HWFP. If the verification and examination results are not approved following options available are:</u></p> <ul style="list-style-type: none"> ● <u>Verify and examine all other containers within that shipment.</u> ● <u>The Contact-Handled Package can be returned to the generator/storage site for remediation of the container. Such waste would have to be re-approved prior to shipment to the WIPP.</u> ● <u>Shipment to another off-site facility for management. If the site wishes to return the waste to WIPP, the waste will have to meet the the generator/storage site's waste analysis requirements in accordance with the HWFP WAP.</u> 	<p>This change describes the waste examination process that the Permittees will perform at the WIPP facility. A discussion of this process can be found in the PMR Overview section and in the response to NOD Comments 3.2.t. and u. The text provides the disposition of the containers as they are processed and tell what will happen if a non-compliant container is discovered.</p>
M1-1d(2)	<p>Each facility ... combination thereof. <u>After verification and examination, each</u> Each <u>stack of waste containers</u> will be secured prior to transport underground (see Figure M1-10). ... The facility transfer vehicle will be driven onto the waste hoist deck, where the loaded facility pallet will be transferred to the waste hoist, and the facility transfer vehicle will be backed off. Containers of CH TRU <u>mixed</u> waste (55-gal (208 L) drums, SWBs, 85-gal (321 L) drums, 100-gal (379-L) drums, and TDOPs) can be handled individually, if needed, using the forklift and lifting attachments (i.e., drum handlers, parrot beaks).</p>	<p>This change continues the description of on-site verification activities from above.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d(3)	<p><u>M1-1d(3) RH TRU Mixed Waste Handling</u></p> <p><u>The RH TRU mixed waste will be received in the RH-TRU 72-B cask or CNS 10-160B cask loaded on a trailer, as illustrated in process flow diagrams in Figures M1-26 and M1-27, respectively. These are shown schematically in Figures M1-28 and M1-29. Upon arrival at the gate, external radiological surveys, security checks, and shipping documentation reviews are performed. Upon completion of these checks, the Uniform Hazardous Waste Manifest is signed, and the generator's copy of the Uniform Hazardous Waste Manifest is returned to the generator. Should the surface dose rate exceed acceptable levels, the shipping cask and transport trailer remain outside the WHB in the Parking Area Staging Area, and the appropriate radiological boundaries (i.e., ropes, placards) are erected around the shipping cask and transport trailer. A determination will be made whether to return the cask to the originating site or to decontaminate the cask.</u></p> <p><u>Following cask inspections, the shipping cask and trailer are moved into the RH Bay or held in the Parking Area Staging Area. The waste handling process begins in the RH Bay where the impact limiter(s) are removed from the shipping cask while it is on the trailer. Additional radiological surveys are conducted on the end of the cask previously protected by the impact limiter(s) to verify the absence of contamination. The cask is unloaded from the trailer using the RH Bay Overhead Bridge Crane and placed on a Cask Transfer Car.</u></p>	<p>This change adds a new section that describes the management of RH TRU mixed waste within the Parking Area and the RH Complex.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d(3)	<p><u>RH-TRU 72-B Cask Unloading</u></p> <p><u>The Cask Transfer Car then moves the RH-TRU 72-B cask to a work stand in the RH Bay. The work stand allows access to the head area of the RH-TRU 72-B cask for conducting radiological surveys, performing physical inspections or minor maintenance, and decontamination, if necessary. The outer lid bolts on the RH-TRU 72-B cask are removed, and the outer lid is removed to provide access to the lid of the cask inner containment vessel. The RH-TRU 72-B cask is moved into the Cask Unloading Room by a Cask Transfer Car and is positioned under the Cask Unloading Room Bridge Crane. The Cask Unloading Room Bridge Crane attaches to the RH-TRU 72-B cask and lifts and suspends the RH-TRU 72-B cask to clear the Cask Transfer Car. The empty cask transfer car is returned to the RH Bay. The RH-TRU 72-B cask is aligned over the Cask Unloading Room port.</u></p> <p><u>The Cask Unloading Room shield valve is opened, and the cask is lowered through the port into the Transfer Cell Shuttle Car. The Cask Unloading Room Bridge Crane is unhooked and retracted, and the Cask Unloading Room shield valve is closed. After the cask is lowered into the Transfer Cell Shuttle Car, the bolts on the lid of the cask inner containment vessel are loosened by a robotic Manipulator. The Transfer Cell Shuttle Car is then aligned directly under the Transfer Cell shield valve in preparation for removing the inner vessel lid and transferring the canister to the facility cask. Operations in the Transfer Cell are monitored by closed-circuit video cameras.</u></p> <p><u>Using the remotely-operated fixed 6.25 Ton Grapple Hoist in the Facility Cask Loading Room, the inner vessel lid is lifted clear of the RH-TRU 72-B cask, and the robotic Manipulator takes swipe samples and places them in a swipe delivery system for counting outside the Transfer Cell. If found to be contaminated above acceptable levels, a determination is made whether to return the canister and cask to the originating site or to overpack the canister. If no contamination is found, the Transfer Cell Shuttle Car moves a short distance, and the inner vessel lid is lowered onto a stand on the Transfer Cell Shuttle Car. The canister is transferred to the facility cask as described below.</u></p>	<p>This change adds a new section that describes the management of RH TRU mixed waste within the RH Complex.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d(3)	<p><u>CNS 10-160B Cask Unloading</u></p> <p><u>After the lid bolts are removed, the CNS 10-160B cask is moved using the Cask Transfer Car from the RH Bay into the Cask Unloading Room and centered beneath the Hot Cell shield plug port. The Cask Unloading Room shield door is closed, and the inner and outer Hot Cell shield plugs are removed and set aside on the floor of the Hot Cell using the remotely operated Hot Cell Bridge Crane. The Hot Cell Bridge Crane is then lowered through the Hot Cell port and is connected to the CNS 10-160B cask lid rigging or lifting device. The Hot Cell Bridge Crane lifts the CNS 10-160B cask lid through the Hot Cell port and sets the lid aside on the Hot Cell floor.</u></p> <p><u>Operations in the Hot Cell are monitored by closed-circuit television cameras. The drum carriage unit lifting fixture (hereafter referred to as lifting fixture) is attached to the Hot Cell Bridge Crane and lowered through the Hot Cell port. The lifting fixture is connected to the upper drum carriage unit contained in the CNS 10-160B cask. The Hot Cell Bridge Crane lifts the upper drum carriage unit from the CNS 10-160B cask through the port into the Hot Cell and sets it near the Hot Cell inspection station. The Hot Cell Bridge Crane again lowers the lifting fixture through the Hot Cell port and connects to the lower drum carriage unit. The Hot Cell Bridge Crane lifts the lower drum carriage unit from the CNS 10-160B cask through the port into the Hot Cell and sets it near the upper drum carriage unit.</u></p> <p><u>The Hot Cell Bridge Crane lifts the CNS 10-160B cask lid from the Hot Cell floor, lowers it through the Hot Cell port and onto the top of the CNS 10-160B cask. The inner and outer Hot Cell shield plugs are replaced. The Cask Unloading Room shield door is opened, and the CNS 10-160B cask is moved into the RH Bay using the Cask Transfer Car. The CNS 10-160B cask is inspected and surveyed, the lid and impact limiter are reinstalled on the CNS 10-160B cask, and it is prepared for transportation off site.</u></p> <p><u>The Hot Cell Bridge Crane connects to an empty facility canister, places it into a sleeve at the inspection station, and removes the canister lid. The Overhead Powered Manipulator or Hot Cell Crane lifts one drum from the drum carriage unit. The Hot Cell Manipulators collect swipe samples from the drum and transfer the swipes via the Transfer Drawer to the Hot Cell Gallery for counting. The drum identification number is recorded, and the recorded numbers are verified against the WIPP Waste Information System (WWIS). If there are any discrepancies, the drum(s) in question are stored within the Hot Cell, and the generator/storage site is contacted for resolution. Discrepancies that are not resolved within 15 days will be reported immediately to the New Mexico Environment Department (NMED) as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.72).</u></p> <p><u>Either the Overhead Powered Manipulator or Hot Cell Bridge Crane lowers the drum into the facility canister. This process is repeated to place three drums in the facility canister. The Hot Cell Bridge Crane or powered Manipulator lifts the canister lid and places it onto the facility canister. The lid is locked in place using a Manipulator or secured with the robotic welder. Each CNS 10-160B cask shipment will contain up to ten drums. Drums will be managed in sets of three. If there is a tenth drum, it will be placed in a facility canister or stored until WIPP receipt of the next CNS 10-160B cask shipment. The Hot Cell Bridge Crane lifts the canister and lowers it into the Transfer Cell.</u></p>	<p>This changes adds a new section that describes the management of RH TRU mixed waste within the RH Complex.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d(3)	<p><u>To prepare to transfer a loaded facility canister from the Hot Cell to the Transfer Cell, a shielded insert is placed onto a Cask Transfer Car in the RH Bay. The Cask Transfer Car is then moved into the Cask Unloading Room and positioned under the Cask Unloading Room Bridge Crane. The Bridge Crane attaches to the shielded insert. The Cask Unloading Room Bridge Crane lifts and suspends the shielded insert clear of the Cask Transfer Car. The shielded insert is aligned over the Cask Unloading Room port. The floor valve is opened, and the shielded insert is lowered into the Transfer Cell Shuttle Car. The Cask Unloading Room Bridge Crane is unhooked and retracted, and the Cask Unloading Room shield valve is closed. The shielded insert is positioned under the Hot Cell Port.</u></p> <p><u>The Hot Cell Bridge Crane lifts a loaded, closed facility canister and positions it over the Hot Cell port. The Hot Cell shield valve is opened, and the crane lowers the canister through the port into the shielded insert positioned in the Transfer Cell Shuttle Car in the Transfer Cell. The Hot Cell Bridge Crane is disconnected from the facility canister and raised until the crane hook clears the Hot Cell shield valve. The Hot Cell shield valve is then closed.</u></p>	This change adds a new section that describes the management of RH TRU mixed waste within the RH Complex.
M1-1d(3)	<p><u>Transfer of Disposal Canister into the Facility Cask</u></p> <p><u>The transfer of a canister into the facility cask from the Transfer Cell is monitored by closed-circuit television cameras. The Transfer Cell Shuttle Car positions the RH-TRU 72-B cask or shielded insert under the Facility Cask Loading Room port and the shield valve is opened. Then the remotely operated 6.25 Ton Grapple Hoist attaches to the canister, and the canister is lifted through the open shield valve into the vertically-oriented facility cask located on the facility Cask Transfer Car in the Facility Cask Loading Room. During this cask-to-cask transfer, the telescoping port shield is in contact with the underside of the facility cask to assure shielding continuity, as does the shield bell located above the facility cask.</u></p> <p><u>For canisters received at the WIPP from the generator site in a RH-TRU 72-B cask, the identification number is verified using cameras, which also provide images of the canister surfaces during the lifting operation. Identification numbers are verified against the WWIS. If there are any discrepancies, the canister is returned to the RH-TRU 72-B cask, returned to the Parking Area Staging Area, and the generator is contacted for resolution. Discrepancies that are not resolved within 15 days will be reported to the NMED as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.72). As the canister is being lifted from the RH-TRU 72-B cask into the facility cask, additional swipe samples may be taken.</u></p>	This change adds a new section that describes the management of RH TRU mixed waste within the RH Complex.

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1d(3)	<p><u>Transfer of the Canister to the Underground</u></p> <p><u>When the canister is fully within the facility cask, the lower shield valve is closed. The 6.25 Ton Grapple Hoist detaches from the canister and is raised until the 6.25 Ton Grapple Hoist clears the facility cask, at which time the upper shield valve is closed. The 6.25 Ton Grapple Hoist and shield bell are then raised clear of the facility cask, and the telescoping port shield is retracted. The Facility Cask Rotating Device rotates the facility cask until it is in the horizontal position on the facility Cask Transfer Car. The shield doors on the Facility Cask Loading Room are opened, and the facility Cask Transfer Car moves onto the waste hoist conveyance and is lowered to the waste shaft station underground. At the waste shaft station underground, the facility Cask Transfer Car moves the facility cask from the waste hoist conveyance. A forklift is used to remove the facility cask from the facility Cask Transfer Car and to transport the facility cask to the Underground HWDU.</u></p>	This change adds a new section that describes the management of RH TRU mixed waste within the RH Complex.
M1-1d(3)	<p><u>Returning the Empty Cask</u></p> <p><u>The empty RH-TRU 72-B cask or shielded insert is returned to the RH Bay by reversing the process. In the RH Bay, swipe samples are collected from inside the empty cask. If necessary, the inside of the cask is decontaminated. The RH-TRU 72-B cask lids are replaced, and the cask is replaced on the trailer using the RH Bay Bridge Crane. The impact limiters are replaced, and the trailer and the RH-TRU 72-B cask are then moved out of the RH Bay. The shielded insert is stored in the RH Bay until needed.</u></p>	This section describes how empty RH TRU casks are returned to the RH Bay.
M1-1e	Inspection of containers and container storage <u>and staging</u> areas are required by 20.4.1.500 NMAC (incorporating 40 CFR §264.174).	This section imposes the same inspection requirements on staging areas as applies to storage areas.

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1e(1)	<p>M1-1e(1) WHB and TMF Unit</p> <p>The waste containers in storage or staging within the WHB or staging in the TMF will be visually inspected <u>visually or by closed-circuit television camera</u> prior to each movement and, at a minimum, weekly, to ensure that the waste containers are in good condition and that there are no signs that a release has occurred. Waste containers ... the generator. This visual inspection <u>of CH TRU mixed waste containers</u> shall not include the center drums of 7-packs and waste containers positioned such that visual observation is precluded due to the arrangement of waste assemblies on the facility pallets. If waste handling operations should stop for any reason with containers located in the TRUDOCK Storage <u>Staging</u> Area in the Contact Handled Package, primary waste container inspections will not be accomplished until the containers of waste are removed from the Contact Handled Package. ...</p> <p>Inspections of the Shielded Storage Area designated for holding waste while manifest discrepancies are resolved, are performed prior to use and weekly thereafter, so long as waste containers reside in the Shielded Storage Area. ...</p> <p><u>Loaded RH-TRU 72-B and CNS 10-160B casks will be inspected when present in the RH Bay. Physical or closed-circuit television camera inspections of the RH Complex are conducted as described in Table D-1a. Canisters loaded in an RH-TRU 72-B cask are inspected in the Transfer Cell during transfer from the cask to the facility cask. Waste containers received in CNS 10-160B casks are inspected in the Hot Cell during transfer from the cask to the CNS 10-160B facility canister by camera and/or visual inspection (through shield windows).</u></p> <p>Waste containers will be inspected prior to reentering the waste management process line for downloading to the underground. Waste containers stored in this area will be inspected at least once weekly.</p>	<p>This section describes how inspections will occur in storage and staging areas and how inspections will be performed for RH TRU waste. This section also removes the requirement that discrepant loads be placed in the Shielded Storage Area since it may be more appropriate to place them in staging areas until the discrepancy is resolved.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1e(2)	<p>M1-1e(2) <u>Parking Area Unit and Parking Area Staging Area</u></p> <p>Inspections will be conducted in the Parking Area Unit <u>and Parking Area Staging Area</u> at a frequency not less than once weekly <u>when waste are present</u>. These inspections are applicable to loaded, stored Contact- <u>or Remote</u>-Handled Packages. The perimeter fence and the southern border of the WHB shall mark the lateral limit of the Parking Area Unit <u>and Parking Area Staging Area</u> (Figure M1-2). Inspections of the Contact- <u>or Remote</u>-Handled Packages stored <u>or staged</u> in the Parking Area Unit <u>and Parking Area Staging Area</u> will focus on the inventory and integrity of the shipping containers and the spacing between Contact- <u>or Remote</u>-Handled Packages. This spacing will be maintained <u>as indicated in Condition III.A.2.e</u> at a minimum of four feet.</p> <p>Contact- <u>or Remote</u>-Handled Packages located in the Parking Area Unit <u>and Parking Area Staging Area</u> will be inspected weekly during use and prior to each reuse.</p> <p>Inspection of waste containers is not possible when the containers are in their shipping container (e.g., <u>casks</u>, TRUPACT-II or HalfPACTs). ... Contact- <u>or Remote</u>-Handled Packages shall be opened every 60 days for the purposes of venting, so that the longest waste would be uninspected would be for 60 days from the date that the inner containment vessel of the Contact- <u>or Remote</u>-Handled Package was closed at the generator site. Venting the Contact- <u>or Remote</u>-Handled Packages involves removing the outer lid and installing a tool in the port of the inner lid. ...</p> <ul style="list-style-type: none"> ● If the reason ... will be performed. The stored Contact- <u>or Remote</u>-Handled Package will be inspected weekly as described above. ● If the reason for retaining the TRU mixed waste containers in the Contact- <u>or Remote</u>-Handled Package is due to an equipment malfunction that prevents unloading the waste in the WHB Unit, the DOE will return the shipment to the generator prior to the expiration of the 60 day NRC venting period. ... The stored Contact- <u>or Remote</u>-Handled Package will be inspected weekly as described above. ● If the reason for retaining the TRU mixed waste containers is due to an equipment malfunction that prevents the timely movement of the waste containers into the underground, the waste containers will be kept in the Contact- <u>or Remote</u>-Handled Package until day 30 (after receipt at the WIPP) or the expiration of the 60 day limit, whichever comes sooner. At that time the Contact- <u>or Remote</u>-Handled Package will be moved into the WHB and the TRU mixed waste containers removed and placed in one of the permitted storage areas in the WHB Unit. ... Waste containers will be inspected when removed from the Contact- <u>or Remote</u>-Handled Packaging and weekly while in storage in the WHB Unit Contact- <u>or Remote</u>-Handled Packages will be inspected weekly while they contain TRU mixed waste containers as discussed above. 	<p>This sections describes the inspection process for outdoor storage and staging areas. This section also requires that RH TRU waste that is in outdoor storage or staging areas must comply with the inspection requirements.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1f	<p>The WHB Unit, <u>WHB Staging Areas</u>, <u>TMF Staging Areas</u>, and <u>RH Complex</u> has <u>have</u> concrete floors, which are sealed with a coating that is designed to resist all but the strongest oxidizing agents. . . Figure M1-14 is a plan view <u>M1-1</u> of the WHB, <u>shows</u> areas where CH TRU mixed waste handling activities discussed in this section occur.</p> <p>Therefore, TRU mixed wastes pose no compatibility problems with respect to the WHB Unit floor. ... During the Disposal Phase, should the floors need to be re-coated, any floor coating used in the WHB Unit TRU mixed waste handling areas will be compatible with the TRU mixed waste constituents and will have chemical resistance at least equivalent to the Carboline® products. Figure M1-14 is a plan view <u>M1-1</u> of the WHB, showing areas where CH TRU mixed waste handling activities discussed in this section occur.</p> <p>During normal operations, the floor of the storage areas within the WHB Unit <u>and WHB and TMF Staging Areas</u> shall be visually inspected on a weekly basis to verify that it is in good condition and free of <u>obvious</u> cracks and gaps. Floor areas of the WHB Unit <u>and WHB and TMF Staging Areas</u> in use during off-normal events will be inspected prior to use and weekly thereafter. All TRU mixed waste containers located in the permitted storage areas <u>and WHB and TMF Staging Areas</u> shall be elevated at least 6 in. (15 cm) from the surface of the floor. TRU mixed waste containers that have been removed from Contact- <u>or Remote</u>-Handled Packaging shall be stored <u>placed</u> at a designated storage area <u>or WHB and TMF Staging Areas</u> inside the WHB Unit or RH Complex so as to preclude exposure to the elements.</p> <p>Secondary containment at the NE Storage <u>CH Bay Storage</u> Area, <u>Room 108 and Airlock 107 Staging Area</u>, <u>WHB Staging Area</u>, <u>TMF Staging Area</u> and the Shielded Storage Area inside the WHB Unit shall be provided by the WHB Unit floor (See Figure M1-1). The WHB Unit is <u>These areas are</u> engineered such that during normal operations, the floor capacity is sufficient to contain liquids upon release. Secondary Containment at the Derived Waste Storage Area of the WHB Unit will be provided by a polyethylene standard drum pallet. The Parking Area Unit, <u>Parking Area Staging Area</u> and TRUDOCK <u>Storage Staging Area</u> of the WHB Unit require no engineered secondary containment since no waste is to be stored there unless it is protected by the Contact- <u>or Remote</u>-Handled Packaging.</p> <p><u>Secondary containment at storage locations inside the RH Bay and Cask Unloading Room is provided by the cask. Secondary containment at storage locations inside the Transfer Cell is provided by the RH-TRU 72-B cask or shielded insert. Secondary containment at storage locations in the Facility Cask Loading Room is provided by the facility cask. In the Hot Cell, waste containers are stored in either the drum carriage unit or in canister sleeves. The Lower Hot Cell provides secondary containment as described in section M1-f(2). In addition, the RH Bay, Hot Cell, and Transfer Cell contain 220-gallon (833-L)(Hot Cell), 11,400-gallon (43,152-L)(RH Bay), and 220-gallon (833-L)(Transfer Cell) sumps, respectively, to collect any liquids.</u></p>	<p>This section delineates that all storage and staging areas will have sealed and coated concrete floors capable of containment and requires the same inspection procedures for staging areas as applies to storage areas. This section also describes the containment capabilities within the RH Complex.</p>
M1-1f(1)	<p>M1-1f(1) <u>Secondary Containment Requirements for</u> <u>the Indoor Storage and Staging Areas</u> the WHB Unit</p> <p>The maximum volume of TRU mixed waste that will be stored in the NE Storage Area of the WHB is seven facility pallets @ 4 SWBs per pallet = 28 SWBs of waste. 28 SWBs @ 496 gal (1,878 L) per SWB = 13,888 gal (52,570 L) waste container capacity. 13,888 gal (52,570 L) x ten percent of the total volume = 1,389 gal (5,258 L) of waste. Since 1,389 gal (5,263 L) is greater than 496 gal (1,878 L), the volume of the</p>	<p>This section provides the secondary containment calculations for the indoor storage and staging areas as well as for all areas within the RHComplex.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
	<p>largest single container, the configuration of all SWBs in the storage area is used for the calculation of secondary containment requirements: 1,389 gal (5,258 L) of liquid x one percent liquids = 13.9 gal (52.6 L) of liquid for which secondary containment is needed:</p> <p><u>The maximum volume of TRU mixed waste on facility pallets that will be stored in the CH Bay Storage Area, and Shielded Storage Area of the WHB is 18 facility pallets @ 2 TDOPs per pallet = 36 TDOPs of waste. 36 TDOPs @ 1,200 gal (4,540 L) per TDOP = 43,200 gal (163,440 L) waste container capacity. 43,200 gal (163,440 L) x ten percent of the total volume = 4,320 gal (16,344 L) of waste. Since 4,320 gal (16,344 L) is greater than 1,200 gal (4,540 L), the configuration of possible TDOPs in the storage area is used for the calculation of secondary containment requirements. 4,320 gal (16,344 L) of liquid x one percent liquids = 43.2 gal (163.4 L) of liquid for which secondary containment is needed.</u></p> <p>The maximum volume of TRU mixed waste that will be stored in the Shielded Storage Area of the WHB Unit is one facility pallet @ 4 SWBs per pallet = 4 SWBs of waste. 4 SWBs @ 496 gal (1,878 L) per SWB = 1,984 gal (7,510 L) waste container capacity. 1,984 gal (7,510 L) x ten percent of the total volume = 198.4 gal (751 L) of waste. Since 198.4 gal (751 L) is less than 496 gal (1,878 L), the volume of the largest single container, the volume of the largest container (an SWB) in the storage area is used for the calculation of secondary containment requirements: 496 gal (1,878 L) of liquid x one percent liquids = 4.96 gal (18.8 L) of liquid for which secondary containment is needed:</p> <p><u>The maximum volume of TRU mixed waste on facility pallets that will be stored in the TMF Staging Area of the WHB is 14 facility pallets @ 2 TDOPs per pallet = 28 TDOPs of waste. 28 TDOPs @ 1,200 gal (4,540 L) per TDOP = 33,600 gal (127,120 L) waste container capacity. 33,600 gal (127,120 L) x ten percent of the total volume = 3,360 gal (12,712 L) of waste. Since 3,360 gal (12,712 L) is greater than 496 gal (1,878 L), the volume of the largest single container, the configuration of all TDOPs in the staging area is used for the calculation of secondary containment requirements. 3,360 gal (12,712 L) of liquid x one percent liquids = 33.6 gal (127.1 L) of liquid for which secondary containment is needed.</u></p> <p><u>The maximum volume of TRU mixed waste on facility pallets that will be stored in the WHB Staging Area of the WHB is 8 facility pallets @ 2 TDOPs per pallet = 16 TDOPs of waste. 16 TDOPs @ 1,200 gal (4,540 L) per TDOP = 19,200 gal (72,600 L) waste container capacity. 19,200 gal (72,600 L) x ten percent of the total volume = 1,920 gal (7,260 L) of waste. Since 1,920 gal (7,260 L) is greater than 496 gal (1,878 L), the volume of the largest single container, the configuration of TDOPs in the staging area is used for the calculation of secondary containment requirements. 1,920 gal (7,260 L) of liquid x one percent liquids = 19.2 gal (72.6 L) of liquid for which secondary containment is needed.</u></p> <p><u>The maximum volume of TRU mixed waste on facility pallets that will be stored in the room 108 is 8 facility pallets @ 2 TDOPs per pallet = 16 TDOPs of waste. 16 TDOPs @ 1,200 gal (4,540 L) per TDOP = 19,200 gal (72,600 L) waste container capacity. 19,200 gal (72,600 L) x ten percent of the total volume = 1,920 gal (7,260 L) of waste. Since 1,920 gal (7,260 L) is greater than 496 gal (1,878 L), the volume of the largest single container, the configuration of all TDOPs in the staging area is used for the calculation of secondary containment requirements. 1,920 gal (7,260 L) of liquid x one percent liquids = 19.2 gal (72.6 L) of liquid for which secondary containment is needed.</u></p> <p><u>The maximum volume of TRU mixed waste that will be stored in the Hot Cell is 10 RH TRU drums @ 55 gal (210 L) per drum = 550 gal (2100</u></p>	

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
	<p><u>L) of waste in drums. Additionally, 6 RH TRU facility canisters @ 235 gal (891L) per canister = 1,410 gal (5,346 L) of waste in canisters for a combined total 1,960 gal (7,419L). And 1,960 gal (7,419 L) of waste x ten percent of total volume = 196 gal (741.9 L) of waste. Secondary containment for liquids will need to have a capacity 196 gal (741.9L). Since 196 gal (741.9 L) is less than the volume of the single container of 235 gal (890 L) therefore, the larger volume is used for determining the secondary containment requirements. 235 gal (890 L) of waste x one percent liquids = 2.35 gal (8.9 L) of liquid needed for secondary containment.</u></p> <p><u>The maximum volume of TRU mixed waste that will be stored in the Transfer Cell is one RH TRU canister or one RH TRU facility canister @ 235 gal (890 L) per canister x ten percent of total volume = 23.5 gal (8.90 L) of waste. 23.5 gal (8.90 L) is less than the volume of the single container of 235 gal (890 L) therefore, the larger volume is used for determining the secondary containment requirements. 235 gal (890 L) of waste x one percent liquids = 2.35 gal (8.9 L) of liquid needed for secondary containment.</u></p>	
M1-1f(2)	<p><u>NE Storage Area CH Bay Storage Area and Shielded Storage Area</u> 43.9 <u>43.2</u> gal x 0.1337 ft³/gal ÷ 0.0033 ft = 563 <u>1,750 ft² (52.3</u> <u>162.7 m²)</u></p> <p><u>TMF Staging Area</u> <u>33.6 gal x 0.1337 ft³/gal ÷ 0.0033 ft = 1361 ft² (126.4 m²)</u></p> <p><u>WHB Staging Area</u> <u>72.6 gal x 0.1337 ft³/gal ÷ 0.0033 ft = 2,941 ft² (273.5 m²)</u></p> <p><u>Room 108 Staging Area</u> <u>19.2 gal x 0.1337 ft³/gal ÷ 0.0033 ft = 778 ft² (72.3 m²)</u></p> <p><u>Shielded Storage Area</u> 4.96 gal x 0.1337 ft³/gal ÷ 0.0033 ft = 201 ft² (18.67 m²)</p> <p><u>Hot Cell</u> <u>2.35 gal x 0.1337 ft³/gal ÷ 0.0033 ft = 95 ft² (8.8 m²)</u></p> <p><u>Transfer Cell</u> <u>2.35 gal x 0.1337 ft³/gal ÷ 0.0033 ft = 95 ft² (8.8 m²)</u></p> <p><u>The portion of the WHB Unit designated for storage of CH TRU mixed waste which includes the CH Bay Storage Area, and Shielded Storage Area has 33,175 20,914.5 ft² (3,082 1,945.7 m²) of floor space; the NE Storage Area in the northeast corner of the WHB Unit (Figure M1-7) has 2,924 ft² (272 m²) of floor space, and the Shielded Storage Area has 292.5 ft² (27.2 m²) of floor space. The CH Bay Storage Area, and Shielded Storage Area requires 1,750 ft² (162.7 m²) for containment, therefore there is sufficient floor space to contain a release of ten percent of one percent of containers in those storage areas.</u></p> <p><u>The portion of the WHB designated for the staging of CH TRU mixed waste and identified as the TMF Staging Area has 9,081 ft² (844.5 m²). The TMF Staging Area requires 1,361 ft² (126.4 m²) for containment, therefore there is sufficient floor space to contain a release of ten percent</u></p>	<p>This section provides the calculations to show that sufficient surface area is available based upon the previous secondary containment requirements in all indoor storage and staging areas as well as within the RH Complex.</p>

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
	<p><u>of one percent of containers in this staging area.</u></p> <p><u>The portion of the WHB designated for the staging of CH TRU mixed waste and identified as the WHB Staging Area has 4,851 ft² (450.7 m²).</u> <u>The WHB Staging Area requires 2,941 ft² (273.5 m²) for containment, therefore there is sufficient floor space to contain a release of ten percent of one percent of containers in this staging area.</u></p> <p><u>The portion of the WHB designated for the staging of CH TRU mixed waste and identified as Room 108 Staging Area has 6,744 ft² (627.2 m²).</u> <u>The Room 108 Staging Area requires 778 ft² (72.3 m²) for containment, therefore there is sufficient floor space to contain a release of ten percent of one percent of containers in this staging area.</u></p> <p><u>The Hot Cell and Transfer Cell are the only portions of the RH Complex managing RH TRU mixed waste outside of casks or canisters. The Hot Cell has 873 ft² (81 m²) of floor space and the Transfer Cell has RH TRU mixed waste has 1,012 ft² (94 m²) of floor space. The Hot Cell and Transfer Cell require only 95 ft² for containment, therefore there is sufficient floor space to contain a release of ten percent of one percent of containers in these storage areas.</u></p> <p>Thus, the floor area of the NE Storage Area and the Shielded Storage Area of the WHB Unit provide sufficient secondary containment to contain a release of ten percent of one percent of the volume of all of the containers, or one percent of the capacity of the largest container, whichever is greater.</p> <p><u>In addition, both the Hot Cell and the Transfer Cell each contain a 220 gal (833 L) sump that will collect any liquids that spill from containers.</u></p>	
M1-1f(2)	Containers of TRU mixed waste to be stored in the Parking Area Unit <u>and Parking Area Staging Area</u> will be in Contact- <u>or Remote</u> -Handled Packages. There will be no additional requirements for engineered secondary containment systems.	This paragraph has been revised to incorporate RH TRU mixed waste and Staging Areas.
M1-1g	Special requirements ... are required. <u>Verification and examination of waste by the Permittees will further show that no ignitable, reactive or corrosive waste has been disposed at WIPP.</u>	This section has been revised to indicate that examination of waste at WIPP will further indicate that no ignitable, reactive or corrosive waste will be received at WIPP.

Waste Isolation Pilot Plant
Class 3 Permit Modification Request
June 2005

Section	Change	Explanation of Change
M1-1i	<p>The WHB Unit is located indoors which prevents run-on from a precipitation event. In addition, the <u>CH TRU</u> containers are stored on facility pallets, <u>containment pallets</u> or standard drum pallets, which elevate the CH TRU mixed waste containers at least 6 in. (15 cm) off the floor, or in Contact Handled Packages, so that any firewater released in the building will not pool around containers. <u>Within the RH Bay, Cask Unloading Room, Transfer Cell, and Facility Cask Loading Room, waste containers are stored in casks or shielded inserts and protected from any potential run-on. Any firewater released in the building will not pool around the waste containers as they are stored in casks, or shielded inserts. Within the Hot Cell, there is no source of water during operations. However, control of run on is provided by the Lower Hot Cell, which lies below a sloped floor surrounded by a grating and canister sleeves in the Hot Cell above.</u></p> <p>In the Parking Lot<u>Area</u> Unit, <u>and Parking Area Staging Area</u> the containers of TRU mixed waste are always in Contact- or Remote-Handled Packages which protect them from precipitation and run on. Therefore, the WIPP container storage <u>and staging</u> units will comply with the requirements of 20.4.1.500 NMAC (incorporating 40 CFR §264.175(b)(4)).</p>	This section has been revised to show that control of run-on in storage or staging areas as well as in the RH Complex is managed appropriately.
Table M1-3	Table M1-3 Added	This table has been added to indicate the waste handling equipment capacities for RH TRU waste.
<u>Figure M1-1, 2, 12, 13, 14</u>	<u>These figures have been revised.</u>	<u>New storage and staging areas are shown on these figures.</u>
<u>Figure M1-1a, 10a, 13, 14a, 16, 16a, 17a, 17b, 17c, 17d, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29</u>	<u>These are new figures.</u>	<u>These reflect changes relative to storage, staging and remote handled (RH) waste.</u>